

CLAIMS

1. An apparatus for cutting of a web (1) conveyed along a conveyance direction (F), and subsequent feeding and threading it up into a processing line, said web (1) comprising a central portion (1c) and edges (1a, 1b), said apparatus comprising central cutting means (2a, 2b) for cutting the central portion (1c) laterally and transversely to the conveyance direction (F) and edge cutting means (3a, 3b) for cutting the edges (1a, 1b) transversely to the conveyance direction (F), said apparatus further comprising at least one edge channel (4a, 4b) for taking up the edge(s) (1a, 1b) into the processing line and threading it(them) through that processing line, said channel(s) showing a section substantially closed and said channel(s) comprising movable lids (6a, 7a, 6b, 7b).
2. Apparatus for cutting and feeding a web (1) according to claim 1, wherein the edge channel(s) (4a, 4b) comprise(s) rotatably mounted inner and/or bottom plate (6a, 7a, 6b, 7b) for taking up and releasing the edges (1a, 1b).
3. Apparatus for cutting and feeding a web (1) according to claim 1 or 2, wherein the edge channel(s) (4a, 4b) is(are) provided with pneumatically driven suction means.
4. Apparatus for cutting and feeding a web (1) according to any one of claims 1 to 3, wherein the edge channel(s) (4a, 4b) is(are) divided into sub-sections.
5. Apparatus for cutting and feeding a web (1) according to any one of claims 1 to 4, wherein the edge channel(s) (4a, 4b) and the corresponding edge cutting means (3a, 3b) are mounted jointly.

6. Apparatus for cutting and feeding a web (1) according to claim 5, wherein the edge channel(s) (4a, 4b) and the edge cutting means (3a, 3b) are mounted jointly on a carriage (8a, 8b).
- 5 7. Apparatus for cutting and feeding a web (1) according to any one of claims 1 to 6, comprising two edge channels (4a, 4b).
- 10 8. Apparatus for cutting and feeding a web (1) according to any one of claims 1 to 7, wherein the edge cutting means (3a, 3b) comprise knife means for cutting off the edges (1a, 1b).
- 15 9. Apparatus for cutting and feeding a web (1) according to claim 8, wherein the knife means (3a, 3b) are guillotine knives.
- 20 10. Apparatus for cutting and feeding a web (1) according to claim 8, wherein the knife means (3a, 3b) are shears knives.
- 25 11. Apparatus for cutting and feeding a web (1) according to any one of claims 1 to 10, wherein the central cutting means (2a, 2b) are mounted to adopt a non-moving state for lateral cutting off the edges (1a, 1b) from the central portion (1c) and a moving state for transversely cutting the central portion (1c) while moving towards each other transversely to the conveyance direction (F).
- 30 12. Apparatus for cutting and feeding a web (1) according to any one of claims 1 to 11, wherein the cutting means (3a, 3b) are arranged downstream with respect to the cutting means (2a, 2b).
- 35 13. Apparatus for cutting and feeding a web (1) according to any one of claims 1 to 12, wherein the cutting means

(3a, 3b) are arranged upstream with respect to the edge channel(s) (4a, 4b).

5 **14.** Apparatus for cutting and feeding a web (1) according to any one of claims 1 to 12, wherein the cutting means (3a, 3b) are arranged downstream with respect to the edge channel(s) (4a, 4b).

10 **15.** A method for cutting a web (1) conveyed along a conveyance direction (F), and subsequent feeding and threading it up into a processing line, said web (1) comprising a central portion (1c) and edges (1a, 1b), the method comprising the steps of:

- 15 (i) cutting off at least one edge (1a, 1b) laterally from the central portion (1c);
- (ii) cutting said at least one edge (1a, 1b) along a direction transverse to the conveyance direction (F);
- (iii) taking up said at least one edge into the processing line through edge channel(s);
- 20 (iv) securing said at least one edge in a pulling unit located at the other extremity of the processing line;
- (v) opening the channel(s) to release said at least one edge; and
- (vi) cutting the central portion (1c).

25 **16.** Method for cutting and feeding a web (1) according to claim 15, wherein the taking up step (iii) comprises sucking the edges into tube channels (4a, 4b).

30 **17.** Method for cutting and feeding a web (1) according to claim 15 or 16, further comprising the step of forming a loop of edges at the vicinity of the edge channel during step (ii).

35 **18.** Method for cutting and feeding a web (1) according to any one of claims 15 to 17, wherein both edges are processed.

19. Method for cutting and feeding a web (1) according to claim 18, wherein said both edges are processed simultaneously.

5 20. Method for cutting and feeding a web (1) according to claim 18, wherein said both edges are processed independently.

10 21. Method for cutting and feeding a web (1) according to claim 20, wherein said both edges are processed sequentially.

15 22. Method for cutting and feeding a web (1) according to any one of claims 15 to 21, wherein the cutting step (i) comprises a step of keeping the central cutting means (2a, 2b) at a non-moving state for lateral cutting off the edges (1a, 1b) from the central portion (1c).

20 23. Method for cutting and feeding a web (1) according to any one of claims 15 to 22, wherein the cutting step (ii) comprises a step of instantaneous transversely cutting of the edges (1a, 1b).

25 24. Method for cutting and feeding a web (1) according to any one of claims 15 to 23, wherein the cutting step (vi) comprises moving the central cutting means (2a, 2b) towards each other transversely to the conveyance direction (F).

30 25. Method for cutting and feeding a web (1) according to any one of claims 15 to 24, using the apparatus of any one of claims 1 to 14.

26. Edge channel (4a, 4b) showing a section substantially closed and comprising movable lids (6a, 7a, 6b, 7b).

35 27. Edge channel (4a, 4b) according to claim 26, comprising rotatably mounted inner and/or bottom plate (6a, 7a, 6b, 7b).

28. Edge channel (4a, 4b) according to claim 26 or 27,
comprising air jets arranged along it.